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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/579,401

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Axel Eble

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27386

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EXAMINER

JANCA, ANDREW JOSEPH

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/579,401	<b>Applicant(s)</b> EBLE ET AL.	
	<b>Examiner</b> Andrew Janca	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 August 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5,7 and 9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,7 and 9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/28/09 has been entered.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1-5, 7, and 9 have been considered but are moot in view of the new ground(s) of rejection.

3. It may be substantively relevant that Applicants appear to argue that one of the prior art inventions differs from their own by possessing a feature which Applicants claim for their invention. Applicants note (Remarks page 4 para 3) that Hiller "uses beaters and scrapers...all of which are avoided by Applicants' process" (Applicants refer to 2:15-18 of Hiller which appears to be a typo: it appears that Applicants are actually referring to some lines in 2:70-80). However, Applicants' claim 4 recites wiping elements for scraping substances off the wall of their mixer.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 3, 5, and 9 are rejected under 35 USC 102(b) as anticipated by WO 2003/032740 A1 to Nielsen.

6. With regard to claim 1, Nielsen teaches a method of thawing pieces of ice which contain protein-containing products and water (1:4-5), which comprises introducing the pieces of ice 2 into a horizontal mixer 4, heating the mixer and at the same time mixing the contents of the mixer to maintain the temperature of the contents of the mixer at a temperature which is less than 10° C above the melting point of the ice (5:20; claims 1 and 5), whereby the pieces of ice are melted to form a liquid phase (2:8-10, 2:25-26)—since Nielsen teaches a marinating process at least some of the liquid water within the meat chunks joins the continuous phase of the liquid brine—and during such melting, any pieces of ice are continually submerged in the liquefied phase and mixed with it (figures 1-3; 5:1ff).

7. The additional elements of claim 3, including that the horizontal mixer has mixing elements 5 which have internal heating, are taught by Nielsen (figures 3-4; 5:7-16).

8. The additional elements of claim 5, including that the protein-containing products are protein-containing products from natural biological sources or from a biological process, are taught by Nielsen (1:4-6).

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9. The additional elements of claim 9, including that the said temperature may be maintained at less than 5° C above the melting point of the ice, are taught by Nielsen (5:20; claims 1 and 5).

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 1, 4-5, 7, and 9 are rejected under 35 USC 103(a) as unpatentable over US 4,638,048 to Foster in view of US 607,228 to Dyer.

13. With regard to claim 1, Foster teaches a method of thawing pieces of ice which contain protein-containing products and water (2:17-18), which comprises introducing the pieces of ice into a mixing cylinder 20 (3:24-26), heating the mixer (1:63-67) and at

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the same time mixing the contents of the mixer to maintain the temperature of the contents of the mixer at a temperature which is less than 10° C above the melting point of the ice (2:32-37), whereby the pieces of ice are melted to form a liquid phase and during such melting, any pieces of ice are continually submerged in the liquefied phase and mixed with it (2:16ff; figures 2-3). It should be noted that the apparatus of Foster superimposes a local recirculatory mixing motion for mixing the two phases (1:64, 2:18-23) upon a global continuous flow of the frozen and thawed plasma from an inlet to an outlet (2:25-44; claim 1). Foster does not teach that the cylinder may be oriented horizontally. However, Dyer teaches a rotary mixer with a central shaft D and helical mixing elements E-F, designed for mixing a substance present in both liquid and frozen phases during the substance's transition from one phase to another (1:11-20), which is disposed horizontally with the shaft parallel to the ground (figure 1). Foster and Dyer are analogous arts, being from the same problem-solving area, the design of rotary shaft mixers suited for stirring a substance in both its liquid and solid phases while undergoing a phase change, in particular ensuring constant circulation of the crystalline phase through the thawing zone of the mixing chamber (Foster 1:64-67; Dyer 1:15-17). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to orient the mixing cylinder of Foster parallel to the ground, that is horizontally rather than vertically, as does Dyer: the motivation would have been because a horizontal orientation allows for continual and symmetric recirculatory mixing of the thawing zone's contents from its central portions outward to its peripheral portions to ensure that the whole charge is kept in a constant state of movement, in other words

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enhance the recirculatory mixing effects of the fluid contents of the thawing zone (Dyer 1:21-55).

14. The additional elements of claim 4, including that said horizontal mixer has wiping elements 27 traveling around the wall thereof, are taught by Foster (4:3-9; figures 2-3).

15. The additional elements of claim 5, including that the protein-containing products are protein-containing products from natural biological sources or from a biological process, are taught by Foster (1:14).

16. The additional elements of claim 7, including that the horizontal mixer may be operated continuously, are taught by Foster: Foster teaches a continuous recirculatory motion for mixing the two phases (1:64, 2:18-23) superimposed over a global continuous flow of the thawed plasma from an inlet to an outlet (2:25-44, claim 1).

17. The additional elements of claim 9, including that the said temperature may be maintained at less than 5° C above the melting point of the ice, are taught by Foster (2:32-37; claims 4-5).

18. Claims 2 and 3 are rejected under 35 USC 103(a) as unpatentable over Foster in view of Dyer as applied to claim 1 above, and further in view of US 4,233,676 to Lücke et al.

19. With regard to claim 2, Foster teaches a cylindrical mixer 31 for heating and cooling fluent materials, having a longitudinal shaft 29 and blades 28 for scooping the fluent contents of the vessel and ensure circulation 4:2-9; figure 3), as does Dyer; but neither Foster nor Dyer not teach that the horizontal mixer may be a disc or

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ploughshare mixer, or that the mixing elements may have internal heating. However, Lücke teach a mixing mechanism 2 for a mixing machine designed for heterogenous mixing, that is of one substance present in both solid and liquid phases (2:5-9) having a longitudinal shaft 3 inside a cylinder 1, and mixing arms 4-5-6 or partial discs 8-9 for locally mixing substances having a continuous (1:33-38) globally directional fluid flow (2:47-60) as they are heated or cooled (1:53-57); and further teaches that the arms 4-5-6 may be ploughshare mixing arms (4:3), having also partial disks 8 or 9 (4:9-17; figure). It would have been obvious to one of ordinary skill in the art to provide ploughshare mixing arms to the mixer of Foster and Dyer, as do Lücke: the motivation would have been to thoroughly mix the contents for the local mixing action (Lücke 1:13-22, 3:63ff) taught by Foster. Alternatively, or in concerted addition to the ploughshare mixing arms as taught by Lücke, it would have been obvious to provide the disk mixing elements of Lücke to the mixing shaft of Foster: the motivation would have been to convey in a measured fashion the thawing contents of the mixing tank for the global conveying action taught by Foster, while leaving enough residence time for the local mixing action to take place (Lücke 2:30ff).

20. With regard to claim 3, Lücke further teach that the mixing elements may have internal heating (2:61-69, 4:18-31; figure). It would have been obvious to one of ordinary skill in the art to provide internal heating to the mixing elements of Foster and Dyer, as do Lücke: the motivation would have been to ensure optimum contact between the material and the heating surface (Lücke 1:63-3:2).



***Conclusion***

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Janca whose telephone number is (571) 270-5550. The examiner can normally be reached on M-Th 8-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on (571) 272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AJJ

/DAVID L. SORKIN/  
Primary Examiner, Art Unit 1797